

REMARKS

This reply is submitted in response to the office action dated December 5, 2005. Claims 1-88 are pending. Claims 36-56 have been withdrawn. New claim 89 is supported by page 21, paragraph [0064].

Claim Objections

Claims 57, 60 and 86 have been objected to under 37 CFR § 1.75 as being duplicates of claims 6, 26 and 1 respectively. Claims 57, 60 and 86 have been amended to correct the duplication.

Rejections Under 35 USC § 102(b) and 103(a)

Claims 1-4, 6, 9-14, 16, 19, 20, 57, 58, 63, 71, 86, and 87 are rejected under 35 USC § 102(b) as being anticipated by US 5,240,966 (Iwasaki). The Examiner suggests that example 8 of Iwasaki discloses a material where 500g of polypropylene has been treated with 150 g of Lucant HC-10 and thus is "adequately plasticized." Applicant Respectfully disagrees. Iwasaki is directed to a granular colorant and a method to prepare the colorant. Specifically in Example 8, 400g of red pigment, 300g of Lucant HC-10, and 1300 g of paraxylene were premixed, then milled until they formed an oily pigment dispersion. Then 1000g of the dispersion and 500g of polypropylene particles were sealed into a container and a vacuum was applied causing the oily dispersion to be sucked into the particles. Then the excess dispersion was filtered off and the residue was freeze dried to obtain 640 g of granular colorant. It is important to note that during this procedure the dispersion/polypropylene mixture were not heated or melted (in fact, the specification at col 4, line 29-33 states that the mixture should be heated above the softening point of the carrier (Lucant-HC-10) but lower than the softening point of the grains (polypropylene). This means that the polypropylene and the Lucant HC-10 were never melt mixed. This means that a plasticized blend was not produced. Instead a coarse blend of the oily dispersion and the PP was made, and then the loose fluids (including the Lucant) were filtered away and freeze dried off the polypropylene leaving

the color granules behind on the particles. In contrast, Applicant's claims are directed to a plasticized composition that is typically achieved when the polypropylene and the NFP are melted and allowed to intimately mix. It is believed that the NFP intercalates into the polypropylene chains and that this is what causes the plasticization effect. Iwasaki's Example 8 never achieves a plasticized blend because the PP and the Lucant are not allowed to intimately mix. Applicant's claims are to a *plasticized* polyolefin composition not just a coarse mix of polypropylene and Lucant. Thus Iwasaki's example 8 does not disclose Applicant's claimed invention. Furthermore, one of ordinary skill in the art looking to plasticize a plastic would not be motivated to look to the granular colorant art. It is clear that the Examiner was using the forbidden tool of hindsight using Applicant's invention as a guide when the Examiner identified a granular colorant composition as relevant to Applicant's plasticized polyolefins that is typically useful in films and molded articles. These are non-analogous art areas and it is clear that one of ordinary skill in the art would not have looked at a colorant patent for a plastic composition with improved flex and resistance to brittleness.

Thus, Applicant respectfully submits that Iwasaki does not disclose a plasticized polyolefin composition comprising one or more polyolefins and one or more non-functionalized plasticizers as required in Applicant's claims. Applicant respectfully requests that the rejection under 35 USC § 102(b) be withdrawn.

Claims 5, 7 and 8 are rejected under 35 USC § 103(a) as being unpatentable over Iwasaki. In addition to the Examiner's arguments above, the Examiner argues that Iwasaki's compositions would have the same properties as Applicant's claimed compositions. Applicant respectfully disagrees. The majority of the Lucant HC-10 in Example 8 is lost when the excess oily pigment dispersion is filtered off and the resulting residue is removed by freeze drying, leaving the pigment behind on the polypropylene. Furthermore, in Example 8, 500 grams of PP are mixed with 1000g of the oily dispersion (which contains 200 g of red pigment, 150 g of Lucant and 650 g of paraxylenes) and then the fluids are vacuumed, filtered, and freeze dried off to obtain 640 grams of granular colorant (which contains 500 g of PP and 140 g of other components, presumably mostly pigment). The mixture before vacuuming, filtering, and freeze drying

is an oily mess and thus is not a plasticized polyolefin, and after vacuuming, filtering, and freeze drying, the mixture probably does not contain any Lucant at all, and even if it does, it is just sitting on the PP granules and is not acting as a plasticizer. Thus Applicant submits that Iwasaki's Example 8 does not have the same properties as Applicant's claimed *plasticized* polyolefin compositions.

Thus, Applicant respectfully submits that Iwasaki does not disclose or suggest a plasticized polyolefin compositions comprising one or more polyolefins and one or more non-functionalized plasticizers as required in Applicant's claims. Applicant respectfully requests that the rejection under 35 USC § 103(a) be withdrawn.

Claims 21-32, 34, 35, 60, 61, 64, 72, 86, and 87 are rejected under 35 USC § 102(b) as being anticipated by US 5,240,966 (Iwasaki). The Examiner suggests that, in addition to the above, Iwasaki's Example 8 would have the same properties as Applicant's claimed compositions. Applicant respectfully disagrees. The majority of the Lucant HC-10 in Example 8 is lost when the excess oily pigment dispersion is filtered off and the resulting residue is removed by freeze drying, leaving the pigment behind on the polypropylene. Furthermore, in Example 8, 500 grams of PP are mixed with 1000g of the oily dispersion (which contains 200 g of red pigment, 150 g of Lucant and 650 g of paraxylenes) and then the fluids are vacuumed, filtered, and freeze dried off to obtain 640 grams of granular colorant (which contains 500 g of PP and 140 g of other components, presumably mostly pigment). The mixture before vacuuming, filtered, and freeze drying is an oily mess and thus is not a plasticized polyolefin, and after vacuuming, filtering, and freeze drying, the mixture probably does not contain any Lucant at all, and even if it does, it is just sitting on the PP granules and is not acting as a plasticizer. Thus Applicant submits that Iwasaki's Example 8 does not have the same properties as Applicant's claimed *plasticized* polyolefin compositions.

Thus, Applicant respectfully submits that Iwasaki does not disclose a plasticized polyolefin compositions comprising one or more polyolefins and one or more non-functionalized plasticizers as required in Applicant's claims. Applicant respectfully requests that the rejection under 35 USC § 102(b) be withdrawn.

Claims 1-4, 9-14, 16, 19, 20, 71, and 86 are rejected under 35 USC § 102(b) as being anticipated by JP-11-049903 (Sasaki). The Examiner suggests that Sasaki discloses a copolymer of ethylene and propylene plasticized with a non-functionalized paraffinic oil having a pour point of from -40 °C to 0 °C, present at no more than 20 wt% used to make a film. Applicant respectfully disagrees. Sasaki discloses blends of polyethylene with a process oil that is *not* a non-functionalized plasticizer as required by Applicant's claims. Paragraph [0016] of the attached translation clearly shows that Sasaki's process oil is a mixture of aromatics, naphthenes and paraffins. In contrast the polyolefin compositions of the present invention include a non-functionalized plasticizer ("NFP") which is a compound comprising carbon and hydrogen, and does not include to an appreciable extent functional groups selected from...aryls and substituted aryls, [and]...carbon unsaturation.... By "appreciable extent", it is meant that these groups and compounds comprising these groups are not deliberately added to the NFP, and if present at all, are present at less than 5 wt% by weight of the NFP. (See Page 12, paragraph [0041] of the specification.)

Furthermore, the specific oils used in Sasaki's examples are most likely *Diana* Process Oils from Idemitsu Kosan (incorrectly translated as "dynaprocess" oil in the attached translation). Diana Process Oils PW-90 and PW-380 described in the examples are both known to have a pour point of -15 °C. Paragraphs [0048] and [0049] of US 2005/0271851 (copy attached) show, Diana Process Oils PW-90 and PW-380 have pour points of -15 °C. Thus, Diana Process Oil's PW -90 and PW-380 do not fall within Applicant's claimed invention. Thus Sasaki does not disclose the use of Applicant's particular NFP's with polyolefins. Applicant respectfully submits that the claimed invention is thus not anticipated by Sasaki and requests that the rejection under 35 USC § 102(b) be withdrawn.

Claims 5, 7 and 8 are rejected under 35 USC § 103(a) as being anticipated by JP-11-049903 (Sasaki). The Examiner suggests that Sasaki discloses a copolymer of ethylene and propylene plasticized with a non-functionalized paraffinic oil having a pour point of from -40 °C to 0 °C present at no more than 20 wt% used to make a film. Applicant respectfully disagrees. Sasaki discloses blends of polyethylene with a process

oil that is *not* a non-functionalized plasticizer as required by Applicant's claims. As shown above Paragraph [0016] of the attached translation clearly shows that Sasaki's process oil is a mixture of aromatics, naphthenes and paraffins, and thus is not an NFP as required by Applicant's claims. Likewise Sasaki's examples use Diana Process oils PW-90 and PW 380, both of which are shown above to have pour points of -15 °C and thus not to be NFP's as required in Applicant's claims. Thus Sasaki neither suggests nor discloses the use of Applicant's particular NFP's with polyolefins. Applicant respectfully submits that the claimed invention is thus not obvious from Sasaki and requests that the rejection be withdrawn.

Claims 21-32, 34, 35, 72, and 86 are rejected under 35 USC § 102(b) as being anticipated by JP-11-049903 (Sasaki). The Examiner suggests that Sasaki discloses a copolymer of ethylene and propylene plasticized with a non-functionalized paraffinic oil having a pour point of from -40 °C to 0 °C present at no more than 20 wt% used to make a film. Applicant respectfully disagrees. Sasaki discloses blends of polyethylene with a process oil that is *not* a non-functionalized plasticizer as required by Applicant's claims. Paragraph [0016] of the attached translation clearly shows that Sasaki's process oil is a mixture of aromatics, naphthenes and paraffins, unlike the NFP's required by Applicant's claims. Likewise Sasaki's examples use Diana Process oils PW-90 and PW 380, both of which are shown above to have pour points of -15 °C and thus not be NFP's as required in Applicant's claims. Thus Sasaki neither suggests nor discloses the use of Applicant's particular NFP's with polyolefins. Applicant respectfully submits that the claimed invention is thus not obvious from Sasaki and requests that the rejection be withdrawn.

Claims 15, 17, 18, 33, 59, 62, 65-70, 73-85 and 88 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of any intervening claims. Applicant has rewritten said claims in independent form including all the limitations of any intervening claims.

Applicant also encloses an information disclosure statement submitting art cited recently in other US cases relevant to the instant application as well as formally citing the

four related patent applications mentioned in previous responses. They are USSN 10/640,435, USSN 11/054,247, USSN 10/782,228, and USSN10/782,306. The Examiner is encouraged to examine those applications and the present art listed.

Applicant regrets that the four references US 5,240,966, 5,783,531, 2005/0271851 and JP 11-049903) are submitted after final, but notes that these references only came to Applicant's attention recently in prosecution in related cases (the four listed above). Applicant begs the Examiner's indulgence and asks that the Examiner review the references.

Applicant respectfully submits that the claims are in condition for allowance and respectfully requests notice of such.

The Commissioner is hereby authorized to charge any additional fees which may be required by this paper, or credit any overpayment, to Deposit Account Number 05-1712.

Respectfully submitted,

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Date

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